

cally ground and refined to a very high degree, so as to render them much more brilliant as well as subtle than as ordinarily prepared? This idea first struck us lately while observing an artist-friend calcining oxide of iron into red-oxes on his parlour fire.

One other hint, and we are done: have the properties of iodide of nickel ever been examined with reference to colouring or gilding? It sublimed in metallic crumbling flakes like gold, and might perhaps be of some special use to artists.

Mr. Linton's work should go into the hands of every painter and investigator of the subject.

Miscellaneous.

ENGINEERING AT THE QUEEN'S COLLEGE, BIRMINGHAM.—The engineering department of this institution, of which we early spoke, has commenced its operations, under the directions of Professors the Rev. W. Hunt, W. P. Marshall, H. Rose, and G. Shaw. According to the newspapers, the Rev. Dr. Warneford has enabled the college to erect a lecture-room, engineering workshops, and rooms for resident engineering students, and has defrayed the expenses of a supplemental charter, under the provisions of which the council is enabled to confer by examination the degree of "civil engineer." "Considering the present condition of engineering, mining, and architectural science, the unrestricted competition to which our trade and manufactures must inevitably be henceforth exposed, in connection with the fact that systematic education in arts and manufactures is established in some continental states, a cogent argument is supplied that this department should be energetically and efficiently carried out in Birmingham, the great centre of manufacture and mining operations; and the recent alarming and numerous accidents in ships, mines, manufactories, and railways, must be allowed to add to the growing necessity of this branch of education, and to its importance and value to the public at large."

SCHOOLS OF ART.—At Cheltenham, drawing-classes in connection with the School of Art are in course of progress. A committee, consisting of several clergy and laity, has been formed for the purpose of framing rules, securing a suitable building, &c. and Lord Ward has consented to give an inaugural address.—The Dean and Chapter of Hereford are announced as the first ecclesiastical corporation which has set the example of supporting art education, by subscribing 10*l.* towards the establishment at Hereford of an elementary drawing-school in connection with the department of practical art.—At Carnarvon, the necessary arrangements are in progress to found a school of drawing and design in connection with the training and other educational establishments there. An efficient master will be appointed by the Board of Trade.—A public meeting has been held at Swansea, at which it has been resolved to accept the offer made by the Government for the establishment of a drawing and modelling school there, and to support it to the utmost of their ability. A committee has been appointed, including representatives of "The People's Institute," and "The Literary Society of Working Men;" as well as the head master of every seminary in the town accepting the offer of the Government aid.

ON WARMING.—I have lately read in THE BUILDER much about chimneys, ventilation, and carbonic acid: all these bear indirectly upon my requirements, as I will endeavour to explain. I get up about half-past six, breakfast with the family at nine, and go to business about ten. My best opportunity for study is therefore between seven and nine, in a quiet little growlery of my own; but in winter I find it very cold, notwithstanding a great coat and a horse-cloth. This my sanctum is about 12 feet square, and I want some simple means of warming it before seven in the morning. The source of heat must be lighted over night: it has in it a stove and a chimney. Some of my friends recommend a gas stove, some an

Arnott's stove, and some an oil lamp. There is no gas in the house, so the first is impracticable. Arnott's stove requires peculiar fuel and nice management, besides having a risk of explosion. An oil lamp would no doubt be very easy to manage, and I am told that lamps are used for this purpose in France. If any of your readers can assist me in my warming difficulty, it will be of use to myself, and probably to many others similarly situated.

C. P. S.

ENGRAVERS IN THE ROYAL ACADEMY.—According to the *Athenæum*, her Majesty, as the head of the Royal Academy, has backed the petition to that body of the engravers, with her gracious recommendation of their prayer; and the Forty, in obedience to royal wishes, and in compliance, doubtless, with their own sense of the justice of the demand, have, we believe, consented to admit a certain number of engravers (to be hereafter determined on) to the full honours of the Academy. "Thus, after nearly ninety years of heart-burnings, this grievance is removed,—and the little stool in the ante-room which Woollett contemned, will be changed for a morocco-chair in the midst of the Forty." The "Select Committee on Arts" expressed themselves strongly against the exclusion so long ago as 1836, when Mr. John Pye and others interested themselves strongly on the subject. Mr. Pye's pamphlet of that date has doubtless aided in bringing about this ultimate result.

FRANCE AND ENGLISH IRON.—The Paris *Constitutionnel* has a long article on a report from M. Lechatelier, engineer of mines, who had been charged by the French Government with a mission in England to ascertain the state of the railroads there, the condition of the rolling stock, and the expenses of working, with a view to the adoption in France of any advantages that they might present. The report of M. Lechatelier goes into many technical details, which are briefly noticed by the *Constitutionnel*, but which are little understood by the public at large. Our contemporary inclines to a belief that, in the construction of the locomotives, and in many other points, the English have no superiority; but admits that there is an immense economy in the expense of traction or haulage as compared with what it costs in this country. We must express some surprise at the statement of the quality of French iron being superior to that of England. This statement, taken in a general sense, is decidedly incorrect. There are, certainly, parts of France which supply ore of a very superior quality, but the quantity of this iron is comparatively small.—*Galignani*.

NEW TRUSS BRIDGE.—The Troy (American) paper, states that a bridge has been erected over the creek in Second-street, New York, by the inventor, Dudley Blanchard, in company with Louis Fellows, of that city. It is an iron truss bridge of 73 feet span, composed of twenty-four separate castings, after six different patterns—four to each. It weighs about 5 tons of cast-iron, and has about 2 tons of bolting. It has been tested with 40 tons on it, and no sign of deflection exhibited. This bridge is constructed with braces and chords of various proportions—each part of the truss frame being made and proportioned to the strain which it has to sustain. The inventor, it is said, employs less material in making a bridge of equal strength to that of the uniform truss bridges. Messrs. Blanchard and Fellows are now engaged in roofing the rolling mill of the Albany Iron Works, a building 336 feet long by 135 feet wide, with an iron roof, supported on same principle.

NEW STEAM-CONDENSER.—There is now in operation at the North Point foundry and machine-shop in Jersey city, says the *New York Courier*, a "condenser," invented by Mr. J. Miller, lately of New Orleans, so constructed as to convert the steam into water, and return it to boilers undiminished, so that when once filled with pure water, they will continue to operate for a week or more without addition; and a steamer could thus readily carry, in a few hogheads, an ample supply of water to last across the Atlantic Ocean; or, if salt water were used, it would be immediately converted into fresh by the condensation of

the steam, and a very trifling precipitation of salt or other impurity would take place. It has been ascertained, adds the *Courier*, from actual experiment, that a steam-engine, with this condenser attached, will produce equal power, at a saving of more than one-third the fuel. By this attachment it turns the high-pressure engine into a low-pressure, and reduces the great unwieldy air-pump now in use to one-tenth its size.

WOOD SCREWS.—Mr. Newton, of Chancery-lane, has patented an improvement in the manufacture of screws for fastening wood, &c. Instead of shaving the heads, either before or after the nick, they are first cut to a more obtuse angle, then the nick given, and afterwards shaved, by which means all burr and irregularities are removed. The jaws of the nicking machine are furnished with a spring, by which they are made to hold various sized screws, and in pointed screws the blank is cut to the proper form before cutting the thread. An improvement in the feeding and supplying of screw blanks, pins, and other similar articles, is effected by apparatus furnished with hooked fingers, by which the articles are seized, the heads preventing them from slipping; also for assorting them according to length or diameter; and a machine is described for shaving the heads, forming the nick, and reshaving, without removing from the jaws in which they are first held.

IMPROVED COUPLING.—A coupling has been patented by Messrs. Gale and Fensom, of Homerton, for joining the two ends of bands or straps used for driving machinery. It consists of a gun-metal plate, covered with gutta percha, with two studs screwed throughout, to receive two screws with countersunk heads, for bringing down a top plate of the same metal. By passing the studs through two holes in each end of the band, and screwing down the top plate, a powerful grip is obtained throughout the whole width of the band, without causing any obstruction in passing over or under rigging, friction pulleys, &c. Specimens of this invention will shortly be exhibited at the Society of Arts.

HOUSE PROPERTY IN THE METROPOLIS.—We take the following results of sales from the newspapers:—

By Mr. GADSDEN.—Freehold premises, being the City Club-house, let on lease at a ground-rent of 330*l.* per annum—11,200*l.*

Freehold house and shop, No. 99, Bishopsgate-street Within, let at 63*l.* per annum—1,390*l.*

By Mr. ALFRED COX, at the Mart.—Leasehold house, No. 72, Cadogan-place, let at 60*l.* per annum, held for 25 years at 5*l.*—450*l.*

By Messrs. DAVIS and VIGARS, at the Mart.—Freehold residence with workshops, &c. Horsehoe-alley, Finsbury, annual value, 50*l.*—950*l.*

By Mr. PAICES, at Garraway's.—Three messuages, Green Dragon-alley, Narrow-street, Lambeth, annual value, 31*l.* 4*s.* less taxes; term, 846 years, at a peppercorn—220*l.*

By Mr. FRED. GODWIN.—A leasehold residence, No. 1, Hallin-terrace, Belgrave-square, let at 130*l.* held for thirty-two years unexpired, at 25*l.*—bought in at 1,490*l.*

A leasehold house, No. 3, Hallin-terrace, let at 100*l.* held for the same term as the preceding, at 5*l.*—sold for 1,350*l.*

A similar house, No. 5, Hallin-terrace, let at 120*l.* also held for the same term at 5*l.*—sold for 1,620*l.*

A leasehold messuage and shop, No. 13, Lowndes-street, Belgrave-square, let at 145*l.* held for an unexpired term of 77 years at 20*l.*—sold for 2,270*l.*

A leasehold mansion, No. 33, Lowndes-street, let at 130*l.* held for the same term as the preceding, at 15*l.*—bought in at 1,995*l.*

A spacious leasehold mansion, No. 36, Lowndes-street, let at 290*l.* held for an unexpired term of 77 years, at a ground-rent of 25*l.*—bought in at 3,700*l.*

Improved ground-rents, amounting to 24*l.* per annum, secured upon three houses in Walton-street, Brompton, held for 99 years from 1849—sold for 470*l.*

By Messrs. HOGGART, NORTON, and TAIST.—Freehold shop and dwelling-house, No. 103, Lower Thames-street, let at 60*l.* subject to rent-charge of 2*l.* 12*s.* per annum—sold for 2,010*l.*

Freehold shop and dwelling-house, No. 19, Love-lane, Lower Thames-street, let at 32*l.* per annum—1,280*l.*

By Mr. LAIBCHILD.—A freehold estate, known as the Blackwall Railway Hotel, in the city of London, producing 3*l.* 10*s.* per annum—sold for 2,000*l.*

By Messrs. WAGSTON and LUTHEY.—A ground-rent of 63*l.* per annum, arising from two houses in Houghton-street, Clare-market, held for 70 years from 1823—1,610*l.*